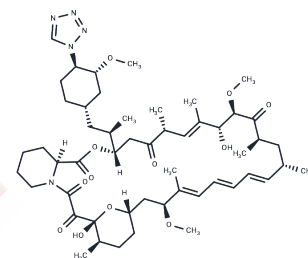


Zotarolimus

Chemical Properties

CAS No. :	221877-54-9
Formula:	C52H79N5O12
Molecular Weight:	966.21
Storage:	Store at low temperature, Keep away from moisture Powder: -20°C for 3 years In solvent: -80°C for 1 year <small>Actual storage temperature shall be subject to the COA.</small>



Biological Description

Description	Zotarolimus (ABT-578), an analogue of rapamycin, inhibits FKBP-12 (IC50= 2.8 nM).
Targets(IC50)	Others, mTOR
In vitro	In smooth muscle cell (IC50=2.9 nM) and endothelial cell (IC50=2.6 nM), Zotarolimus effectively inhibits cells proliferation.
In vivo	Zotarolimus potently inhibits adjuvant DTH (ED50=1.72 mg/kg/day), EAE (ED50=1.17 mg/kg/day), and cardiac allograft rejection (ED50=3.71 mg/kg/day).
Kinase Assay	zotarolimus (10 pM-1 μM) in buffer A (2% BSA and 0.2% Tween-20 in D-PBS) is used in the assay of Binding Affinity to FKBP12.
Cell Research	Cell proliferation is assayed by measuring tritiated thymidine incorporation in vitro. Human coronary artery cells (hCa) are seeded into tissue culture flasks for expansion and applied to 96-well plates at desired density in complete media (5000 hCaSMC; 10 000 hCaEC). After 2 days, complete media is replaced with incomplete media to synchronize cells and induce G0 state. Two days later, incomplete media are removed and replaced with complete media (serum/growth factors) to induce G0 to G1 transition. Complete media also contain drug at desired concentrations to determine its effects on cell proliferation. On day 7, 3H-thymidine is added to cells to monitor DNA synthesis, and cells are harvested after overnight incorporation of radioactivity. After an incubation period of 72 h, 25 μL (1 μCi/well) of 3H-thymidine are added to each well. The cells are incubated at 37°C for 16-18 h to allow for incorporation of 3H-thymidine into newly synthesized DNA and the cells harvested onto 96-well plates containing bonded glass fibre filters. The filter plates are air-dried overnight, MicroScint-20 (25 μL) added to each filter well and counted. Drug activity is determined by the inhibition of 3H-thymidine incorporation into newly synthesized DNA relative to cells grown in complete media. (Only for Reference)
Animal Research	Male Sprague-Dawley rats was administrate by intravenous or oral Zotarolimus (2.5 mg/kg) dissolved in ethanol: propylene glycol: cremophor EL: D5W vehicle (20: 30: 2: 48, by volume).

Solubility Information

Solubility	Ethanol: 93 mg/mL (96.25 mM),Sonication is recommended. DMSO: 93 mg/mL (96.25 mM),Sonication is recommended. H2O: < 1 mg/mL (insoluble or slightly soluble), (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+90% Corn Oil: 3.3 mg/mL (3.42 mM),Sonication is recommended. <i>Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.</i>

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.035 mL	5.1749 mL	10.3497 mL
5 mM	0.207 mL	1.035 mL	2.0699 mL
10 mM	0.1035 mL	0.5175 mL	1.035 mL
50 mM	0.0207 mL	0.1035 mL	0.207 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Garcia-Touchard A, et al. Eur Heart J, 2006, 27(8), 988-1993.

Chen YW, et al. J Cardiovasc Pharmacol, 2007, 49(4), 228-235.

Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins

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